

A REVISION OF THE BRITISH SPECIES OF *MORDELLISTENA* (COLEOPTERA, MORDELLIDAE) BELONGING TO THE *PARVULA* GROUP AND THE SUBGENUS *PSEUDOMORDELLINA* ERMISCH

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Abstract. *Mordellistena* (*Pseudomordellina*) *imitatrix* Allen is synonymised with *M. (P.) acuticollis* Schilsky. *M. (s.str.) eludens* Allen is synonymised with *M. (s.str.) pseudoparvula* Ermisch. A key is given to the British species of the *parvula* group and the subgenus *Pseudomordellina* Ermisch. Information on the host associations, British distribution and secondary sexual differences is provided.

INTRODUCTION

Allen (1995 & 1999) described two new species of *Mordellistena* based on British material, *M. (Pseudomordellina) imitatrix* Allen and *M. (s.str.) eludens* Allen. Allen (1986) had previously revised the two groups of species in which these new species belong, and pointed out the similarity in general appearance of British members of the *parvula* group and the subgenus *Pseudomordellina* Ermisch.

Shiyake (1994), in a study of Japanese species of these groups, concluded that the *parvula* group and the subgenus *Pseudomordellina* should not be placed in separate subgenera, based on his study of pairs of sibling species. He showed that one species of the pairs he studied had a small outer spur and the other lacked the small spur, and concluded that the smaller outer spur was readily lost in the course of evolution.

With regard to the British species it should be noted that it is often difficult to see the smaller of the two tibial spurs in the *parvula* group which can be stuck to the side of the longer spur. *M. (Pseudomordellina) acuticollis* Schilsky is, in external appearance, almost identical to *pseudoparvula*, and the latter species may be misidentified as the former if the tibial spurs are not examined carefully. Fortunately the parameres are quite different.

HOST ASSOCIATIONS

Shiyake (1994) says that many of the species in these two groups are associated with *Artemisia*, as is the case with British *imitatrix*, host mugwort, *A. vulgaris* L. and *nanuloides*, host sea wormwood, *A. maritima* L.

However it is possible that hosts other than *Artemisia* may be used by species in these two groups. Hodge (1999) has found *pseudoparvula* at two locations associated with creeping thistle *Cirsium arvense* (L.) and spear thistle *C. vulgare* (Savi), and Batten (1976) gives *Artemisia* spp., cultivated *Chrysanthemum* sp., cultivated sunflower, *Helianthus* sp., cultivated hemp, *Cannabis sativa* L., marsh valerian, *Valeriana dioica* L., and marjoram, *Origanum* sp. as putative hosts of *parvula*. Given the difficulties in identifying Mordellidae, the reliability of some of these host records is open to question.

In this connection it should be noted that Ford & Jackman (1996) in a study of some Mordellidae from N. America, bred one common species of *Mordellistena* from

11 different genera of Asteraceae. They also suggest that adults may also frequent flowers of non-larval hosts, as is certainly the case in some British Mordellidae.

COMMENTS ON THE BRITISH SPECIES

M. (s.str.) eludens Allen 1999 = *M. (s.str.) pseudoparvula* Ermisch 1956 **syn. n.**

Horak (1996) synonymised *M. parvuloides* Ermisch with *M. pseudoparvula* Ermisch. I have examined the female holotype of *parvuloides* in the Staatliches Museum für Tierkunde, Dresden (SMTD) collection and agree with Horak (1996) that there appears to be no significant difference between it and the male holotype of *pseudoparvula*, also in SMTD, which I have examined.

Owen (1999) in bringing this synonymy to the notice of British coleopterists, commented on the difference in the published figures of the parameres of *parvuloides* (Ermisch, 1969, Kaszab, 1979, and Batten, 1986) and that of *pseudoparvula* (Ermisch, 1969). It is evident that all the published figures of *parvuloides* have been based on those of Ermisch (1969). There are two dissected male specimens labelled as *parvuloides* in the material I have borrowed from SMTD. The parameres of a specimen from Landshut, Bay., O. Müller are missing and those of a specimen from Düsseldorf, 13.vii.1956, C. Koch do not conform to those of *pseudoparvula* or Ermisch's figure of *parvuloides*. I am not certain as to the identity of this specimen. Its external characters and the general form of the parameres suggest it is closely related to *pseudoparvula*. It may be an undescribed species as the parameres are unlike those of the other two species in the *pseudoparvula* group as defined by Horak (1996).

I have compared the holotype of *eludens* Allen with the holotype of *pseudoparvula* and externally there appears to be no difference. The parameres of the holotype of *pseudoparvula* are slightly different from that of *eludens* but appear to fall within the range of variation one might expect. The aedeagus of the holotype of *eludens* is also very like that of a specimen of *pseudoparvula* from Lainzer Tieg., Wien, identified by Ermisch in the SMTD collection. I also have a male specimen of *pseudoparvula* from Santon Downham, W. Suffolk, kindly given to me by John Owen. This specimen was identified by Batten as *pseudoparvula*. Apart from the small size it agrees very well with the holotype of *eludens* and the form of the parameres of the two are very similar. I therefore have no doubt that *M. eludens* and *M. pseudoparvula* are the same and formally synonymise them here.

Allen (1999), in his description of *eludens*, highlights the differences between the parameres of *eludens* and *parvula* but does not mention *parvuloides* = *pseudoparvula*, though he does mention the slightly sinuate side-margins of the pronotum of *eludens* which would suggest that it was *parvuloides* if using the key of Batten (1986). Possibly Allen did not consider the latter species because of the differences between the parameres of *eludens* and the figure of the parameres of *parvuloides* in Batten (see comments above). The drawings of the parameres in Ermisch (1969) are not always sufficiently accurate to allow positive identification of species. This, taken together with the very similar structure of the parameres of some closely related species and the individual variation within species, makes the identification of many *Mordellistena* species problematic without recourse to the examination of type specimens.

Unfortunately, Allen has misinterpreted the left and right parameres, and the nomenclature concerning their parts. This is not surprising since Ermisch (1969) does not give a full explanation of the nomenclature concerning the parameres. I have followed Franciscolo (1957), on which Ermisch (1969) based his schematic drawing

of the male genitalia, in interpreting the nomenclature of the parameres. Following Franciseolo, Allen's left paramere is the right paramere and vice versa.

Horak (1996) says that in *pseudoparvula* and the two closely related species he mentions, the anterior part of the head is completely black. This is not true in the case of the holotype of *eludens*, the male specimen from Santon Downham and the specimen from Lainzer Tieg., where the part of the head anterior to the antennal insertions is at least partly brown. However the holotype of *pseudoparvula* and a female specimen from Ashted Common both have the head entirely black. Most specimens of *parvula* I have examined have the head entirely black, but a few specimens have the extreme anterior part brown. The size ranges given by Horak (1996) in his key to *pseudoparvula* and two closely related species are also not diagnostic. The length of *pseudoparvula* is given as 3.8–3.9 mm, however, the small male from Santon Downham is 2.8 mm long excluding the pygidium.

M. (Pseudomordellina) imitatrix Allen 1995 = *M. (P.) acuticollis* Schilsky 1895
syn. n.

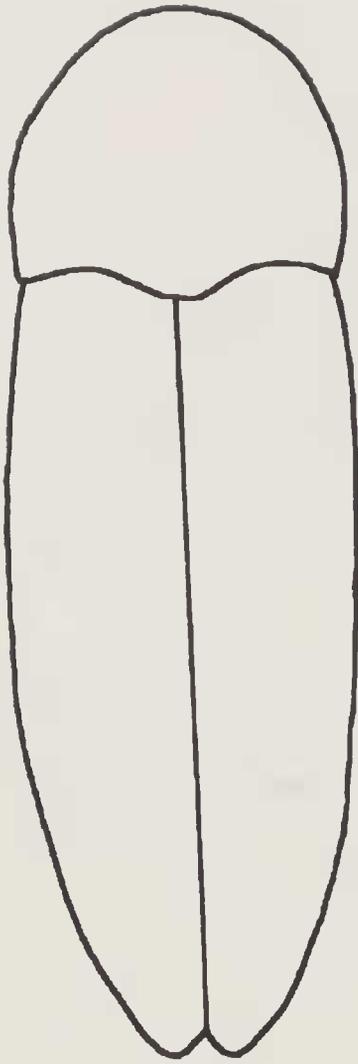
I have examined the male holotype of *imitatrix* in the BMNH collection. The form of the male genitalia and hind-tibial ridges of this specimen is the same as continental specimens of *acuticollis* identified by Ermisch (SMTD). I have examined about twenty specimens of what appear to be the same species from a number of British localities, many collected on *Artemisia vulgaris* L., the host of *imitatrix*. I have not found any specimens with the tibial ridges of the form figured by Allen (1995) as being diagnostic of *imitatrix*, but amongst the material examined there is considerable variation in the ridges (Fig. 5). Amongst the material examined are several specimens from Woolwich Common, the type locality of *imitatrix*, collected on *Artemisia* by John Owen. Allen (1995) says that the parameres of the two species are not or scarcely different and that "in practice, the difference in the hind-tibial ridges may not always be as clear-cut and satisfactory as one could wish". Given the fact that the parameres are identical in both species and one quite often gets individuals of *Mordellistena* in which the hind-tibial ridges are atypical (e.g. short extra ridges between the main ridges, or incomplete ridges), I have no doubt that *imitatrix* and *acuticollis* are one species. The putative different host plants of the two species may also have misled Allen into believing he was dealing with two species (see introduction).

It should be noted that Allen's (1995) figure of his left paramere (right paramere following Franciseolo (1957)) of *imitatrix* is viewed from the other side to that of Batten's (1986) figure of the same paramere of *acuticollis*. Batten (1976) points out that Ermisch (1969) figured his paramere of *acuticollis* from the outer side and not the inner side as he intended. No doubt Allen was following Ermisch when he drew his figure.

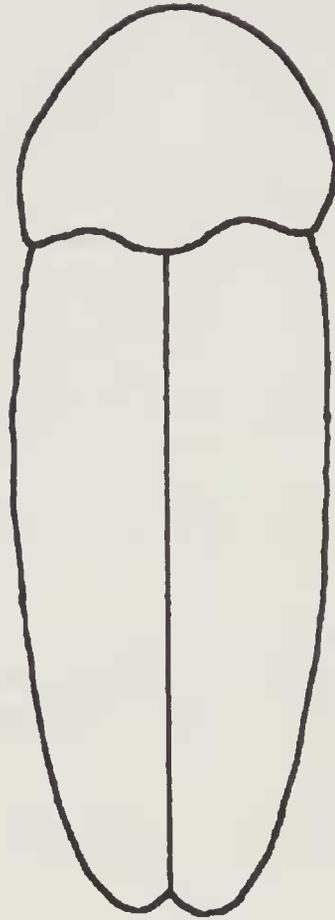
SEXUAL DIFFERENCES

Males of *acuticollis*, *pseudoparvula* and *parvula* have a brush of longer bristle-like pubescence on the dorsal face at the inner margin of the base of the fore tibia, but it can be difficult to see in poorly set specimens. This is not present in the females. This brush is also present in some male *nanuloides* but is less obvious. Males of *parvula* have the anterior tibia widened at the base (Fig. 6).

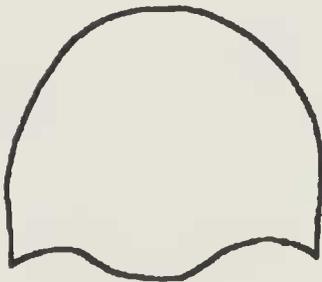
The males of all species in these groups usually have the fore femora and tibiae of a lighter colour than the females. However I have seen females with legs almost as light as males so this difference is not absolute.



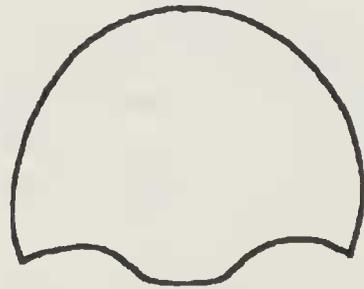
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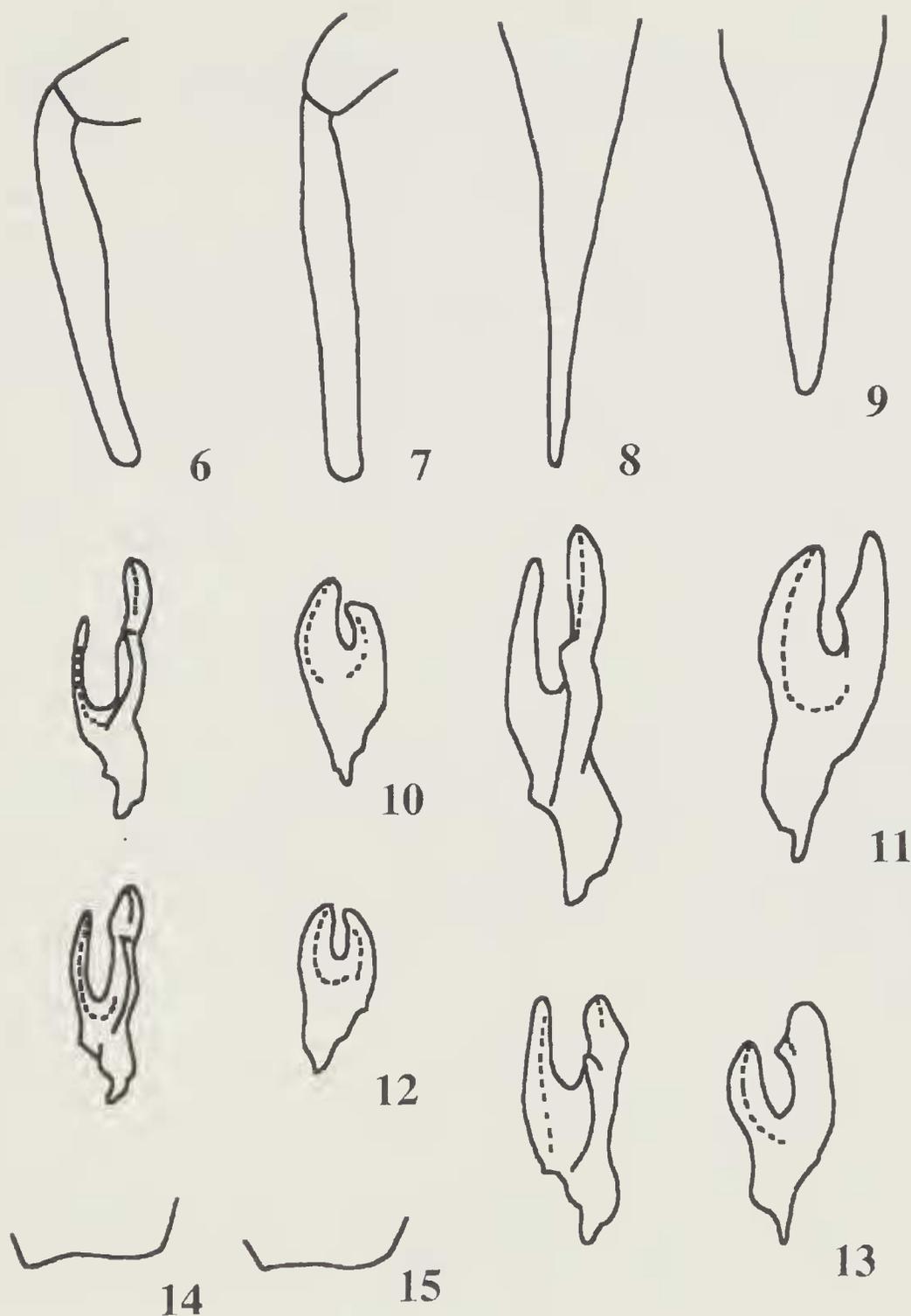
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Figs. 1-15: *Mordellistena* species. 1-2: Pronotum and elytra, 1 *M. pseudoparvula*, 2 *M. parvula*. 3-4: Pronotum, 3 *M. acuticollis*, 4 *M. uauulooides*. 5: Hind tibia of *M. acuticollis* showing variation in ridges. 6-7: Fore tibia of male, 6 *M. parvula*, 7 *M. pseudoparvula*, 8-9: Pygidium, 8 *M. pseudoparvula*, 9 *M. parvula*. 10-13: Parameres of male (left paramere on left; ventral branch of left paramere on left; ventral branch of right paramere on right), 10 *M. pseudoparvula*, 11 *M. parvula*, 12 *M. uauulooides*, 13 *M. acuticollis*. 14-15: Lateral margin of pronotum viewed from the right side, 14 *M. pseudoparvula*, 15 *M. parvula*.

Males of *uauulooides* and *acuticollis* often have the clypeal region of the head reddish; however I have seen some males with a completely black head like the female. Males of *parvula* and *pseudoparvula* usually have the head black like the females, but I have seen males with the clypeal region reddish.

BRITISH DISTRIBUTION

M. acuticollis is now widespread in S. E. England, with records from most vice-counties between W. Suffolk in the north and S. Hampshire in the west. The earliest known record is from 1985, and suggests that the species is a recent migrant or importation.

M. namuloides is a rarely collected species known from W. Kent, W. Sussex and S. Hampshire. It may well occur in other coastal areas where its host sea wormwood, *A. maritima* L. occurs.

M. parvula is widespread in S. E. England and also recorded from Cornwall, Leicestershire and S. Wales. Many localities are from areas with calcareous soils and the species probably has a requirement for open well insolated habitats. There are records of specimens taken in pitfall traps and by suction sampling, which suggest that it may spend part of its time at ground level.

M. pseudoparvula is recorded from a few localities in E. Sussex, W. Kent, Surrey, S. Essex and W. Suffolk. The earliest known record is from 1939. Due to its similarity to *parvula* there may be earlier collected specimens standing in collections as *parvula*.

KEY TO THE BRITISH SPECIES OF THE *PARVULA* GROUP AND PSEUDOMORDELLINA

- 1 Hind tibia with two apical spurs, the shorter about half or less than half the length of the longer (sometimes difficult to see); *parvula* group.....2
- Hind tibia with a single long apical spur; sub gen. *Pseudomordellina*.....3
- 2 Lateral margins of pronotum strongly curved and strongly convergent to the hind angles when viewed from above, almost straight when viewed from the side (Figs. 2, 15); pronotum slightly but distinctly wider than the elytra at its widest point (Fig. 2); fore tibia much wider near the base than the apex in the ♂ (Fig. 6); pygidium less elongate (Fig. 9); ventral branch of right paramere angled on its inner margin, left paramere with ventral branch only slightly shorter than dorsal branch (Fig. 11); length excluding the pygidium 2.8–3.5 mm.....*parvula* (Gyllenhal)
- Lateral margins of pronotum less strongly curved and less strongly convergent to the hind angles when viewed from above, sinuate when viewed from the side (Figs. 1, 14); pronotum about as wide as elytra at its widest point (Fig. 1); fore tibia of ♂ only slightly wider near the base than the apex (Fig. 7); pygidium more elongate (Fig. 8); ventral branch of right paramere not angled on its inner margin, left paramere with ventral branch much shorter than the dorsal branch (Fig. 10); length excluding the pygidium 2.4–3.4 mm.....*pseudoparvula* Ermisch = *parvuloides* Ermisch = *eludens* Allen
- 3 Antennae shorter than the combined length of the head and pronotum; segments 5–10 of antennae about one and a half times as long as wide; lateral margins of pronotum usually convergent to hind angles (Fig. 4); ventral branch of right paramere without a notch near the apex, ventral branch of left paramere thin, shorter than dorsal branch (Fig. 12); length excluding the pygidium 2.1–3.0 mm;.....*namuloides* Ermisch
- Antennae about as long or longer than the combined length of the head and pronotum; segments 5–10 of antennae about twice as long as wide; lateral margins of pronotum almost parallel before hind angles (Fig. 3); ventral branch of right paramere notched near the apex, ventral branch of left paramere thicker, as long or slightly longer than dorsal branch (Fig. 13); length excluding the pygidium 2.8–3.5 mm.....*acuticollis* Schilsky = *imitatrix* Allen

Material examined: Full data is only given for type material or uncommon species.

M. parvula: 12 ♂, 5 ♀ from the following localities. Isle of Wight: Sandown; Niton. S. Hampshire: Portsdown Hill. E. Sussex: Ditchling; Barcombe. E. Kent: Blean Woods. Surrey: Weybridge. S. Essex: Temple Mills; Canvey Island (TQ7683); Thurrock (TQ587795). Hertfordshire: Bushey. W. Suffolk: Brandon; Santon Downham.

M. pseudoparvula: Holotype ♂ *M. pseudoparvula*: Rheinprovinz, Boppard, vi. 39, K. Ermisch (SMTD). Holotype ♀ *M. parvuloides*: Torre del Lago, (Lucca), 1939, A. Gagliardi (SMTD). ♂ Lainzer Tierg., VIII. 54, Wien, leg. F. Schubert (SMTD). Holotype ♀ *M. eludens*: England, E. Sussex, below Mount Caburn, 19.vi.1993, R.A. Jones (NMGW). ♂ E. Sussex, Barcombe Mills, 27.vii.1939, C.J. Saunders (BMNH). ♀ Surrey, Ashted Common, 30.vii.1992, B. Levey, beaten from Sallow. ♀ S. Essex, Temple Mills (area 2), pitfall trap, 13–27.vii.1999, P.R. Harvey (NMGW). ♀ Surrey, Richmond Park, 26.vi.1983, P.M. Hammond (BMNH), (this specimen was questionably identified as *M. klapperichi* Ermisch by Batten.) ♂ W. Suffolk, Santon Downham, 5.viii.1983, malaise trap, J. Owen (NMGW).

M. nanuloides: 1 ♂ N. & St Joosl Z., 25.vii.1943, P.J. Brakman. Zuid sloe. This specimen is labelled as a paratype but the original description indicates that the type series consists of a male and female specimen with the above locality and date. Therefore this specimen should be treated as a syntype. 1 ♀ same data as the specimen above, but lacks paratype label. Should be treated as a syntype. 1 ♀ same data as above but collection date 17.vii.1944. This specimen is labelled as the holotype, but date on the locality label does not agree with date given in the original description. 1 ♂, 1 ♀ same data as above but collection date vii.1941. The male is labelled as a paratype and the female as an allotype, but collection date does not agree with date given in the original description. 1 ♂ Meissen, Knorre, 27.vi.1926, Dr Maertens; all in SMTD. E. Kent: 1 Isle of Sheppey, G.C. Champion Coll. (BMNH); 4 Shcerness, J.R. le B. Tomlin Coll. (NMGW). 3 W. Sussex: W. Wittering, 14.vii.1971 A.E. Gardner Coll. (NMGW). 1 ♀ S. Hampshire, Portsdown, 9.vii.1991, D.M. Appleton (in D.R. Nash coll.).

M. acuticollis: Holotype ♂ *M. imitatrix*: N.W. Kent, Woolwich Common, 15.vii.1992, *Artemisia vulgaris*, A.A. Allen (BMNH). 1 ♀ Neusiedler See, Neusiedel, vi.1924, Th. Kriege (SMTD), identified by K. Ermisch. 1 ♀ Schönbeck a. E., 25.vii.1932, W. Borchert (SMTD). 1 Mark: Eberswalde, 6.vii.1969, L. Dieckmann (SMTD). 1 Hungaria, Kalocsa (SMTD). W. Sussex: W. Lavington. W. Kent: Woolwich Common; Bexley; Thamesmead. Surrey: Ashted Common. Middlesex: Staines. S. Essex: Low Hall Wood (TQ359881); Marsh Lane Fields (TQ370868). W. Suffolk: Lakenheath (TL749829); Wangford Glebe (TL7583).

DEPOSITORIES

BMNH	Natural History Museum, London, UK
NMGW	National Museums and Galleries of Wales, Cardiff, UK
SMTD	Staatliches Museum für Tierkunde, Dresden, Germany

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of the holotype of *M. eludeus* and John Owen for the donation of a male specimen of *pseudoparvula* and other material, and providing me with a copy of the paper by J. Horak. Martin Brendell of the Natural History Museum, London, Daniel Hackett, David Nash and Colin Plant for the donation or loan of specimens.

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SHORT COMMUNICATION

Eriocrania chrysolepidella (Zell.) (Lep.: Eriocraniidae) at Homefield Wood, Medmenham, Buckinghamshire.—On 16.vi.2000 I paid a short lunchtime visit to Homefield Wood, a nature reserve on the Chiltern Hills near Medmenham in Buckinghamshire. My intention was to search for larvae of the elachistid *Stephensia brunnichevella* L. in calamint, *Calamintha vulgaris*. This was successful but as I was leaving the reserve I happened upon a group of coppiced hazel bushes. I immediately noticed that many of their leaves contained mines of *Eriocrania chrysolepidella*. Closer investigation showed that most of these had been vacated but approximately 20% were still tenanted.

This is a species I am familiar with from Unhill Wood near Streatley in Berkshire but one I had not met with in Buckinghamshire before. I reported the find to the Reserve Warden who I met on the day. Subsequent enquiries of the County Recorder for Buckinghamshire Lepidoptera, Martin Albertini, indicated that this species is known from few localities in this county, and that Homefield Wood is not one of these.—I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire RG6 3AN.